Amendments to the Drawings:

The attached sheets of drawings include changes to Fig 3.

Attachment: Annotated Sheets of Drawings Showing Changes
Submittal of Drawing Replacement Sheets

REMARKS/ARGUMENTS

1. Claim Amendments

The Applicant has amended claims 1-21. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-21 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2. Examiner Objections – Drawings

The Drawings were objected to because Figure 3 should be designated by a legend "Prior Art". A correction to the drawing is shown on the enclosed sheet. The Examiner's approval of the drawing change is respectfully requested.

3. Examiner Objections - Claims

Claims 6-9 and 15-21 were objected to as being in improper form because of multiple dependent claims. The Applicant has amended the claims to overcome the improper form. The Examiner's consideration of the amended claims is respectfully requested.

4. Claim Rejections – 35 U.S.C. § 112

Claims 3 and 12 were objected to as failing to comply with the enablement requirement. Applicant has amended Claims 3 and 12 to comply with the enablement requirement. Support for the amendment can be found at least at page 11, lines 23-31.

5. Claim Rejections – 35 U.S.C. § 101

Claim 20 was rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter because claim 20 is directed to a computer program and computer programs are not statutory subject matter. Claim 20 has been amended to direct it to statutory subject matter.

6. Claim Rejections – 35 U.S.C. § 103 (a)

Claims 1, 2, 4, 5, 10, 11, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's background of invention, in view of Easton (US 5,764,687). Applicant respectfully traverses the rejection.

The invention, as claimed, provides a method of receiving radio signals in which the number of bits used to represent the despread data symbols that are output from the fingers of the RAKE, each despread data symbol being represented by a first number of bits, can be reduced in such a way that the loss of soft information is minimized. The problem being solved by the present invention is the avoidance of saturated RAKE output values. The saturation of RAKE output values can be thought of as a kind of MSB truncation. The present invention solves this problem by measuring the power of the RAKE output. It then scales, accordingly, the RAKE output before the saturation unit (which corresponds to truncating the least significant bits (LSBs) but not truncating the most significant bits (MSBs)). In essence, the present invention involves truncating the LSB bits to avoid saturation. In a further embodiment, after measuring the power of the RAKE output, it can adjust the analog gain value to reduce the dynamics of the signal to avoid saturation.

More specifically, the objective of the present invention is achieved in that the method truncates a despread data symbol representing a first number of bits, which despread data symbol is provided from the RAKE unit, to obtain a truncated data symbol represented by a second number of bits (being the LSB), said second number being smaller than said first number. The truncated data symbol (being the LSB) is then saturated to obtain a saturated data symbol and this saturated data symbol replaces the truncated data symbol. The saturated data symbol will have the highest value that can be represented by the second number of bits (the LSB), if the value of the despread data symbol from which that truncated data symbol was obtained is larger than said highest value. The saturated data symbol will have the lowest value that can be represented by the second number of bits (the LSB), if the value of the despread data symbol from which that truncated data symbol was obtained is less than the lowest

value. The method level adjusts the despread data symbols provided from the RAKE unit in dependence of said despread data symbols, so that overflow for the truncated data symbols is prevented.

As can be seen, the use of truncation and saturation reduces the number of bits needed to represent the data symbols from the fingers of the RAKE. However, because, conventionally, the level adjustment is performed before the RAKE unit, the output levels from the individual fingers may differ considerably from each other and there would be, with the use of truncation and saturation alone, a risk of overflow for one or more of the data symbols resulting in loss of information in the truncation and saturation process. This problem is solved when the truncation and saturation is combined with the further level adjustment as in the present invention, so that the level of the symbols provided from the RAKE is adjusted in dependence of the level of the saturated data symbols to prevent overflow.

Examiner states, in the Office Action:

> Applicant's background of invention and Easton disclose all the subject matters claimed in claims 1 and 10, *except that the non-truncated bits are selected as the least significant bits of the first number of bits representing a despread data symbol*....As to the first limitation, the whole purpose of truncation is to reduce the number of bits, and since it is not disclosed in specification why the most significant bits have been truncated instead of the least significant bits, examiner states that choosing the most significant bits or the least significant bits for truncation is a matter of design choice based on the system requirements and therefore it would have been obvious to one of ordinary skill in the art at the time of invention to choose any of least or most significant bits for truncation to meet the design requirements of the system. *(emphasis added)*

Based on the above discussion, it should be clear that Easton, in combination with the background of the invention, fail to disclose the subject matter of the present invention. Further, as noted above, saturation in a conventional RAKE architectures cause, in effect, a truncation of the MSB. Inasmuch as the MSB carry the most important parts of a message, there is a need to despread data symbols in such a way that the loss of soft information is minimized. Hence, the present invention truncates

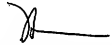
and saturates the LSBs and the non-truncated and non-saturated bits in the present invention are the MSBs. As can be seen, the truncation and saturation of the LSBs, not the MSBs, is a key feature claimed in the present invention and such feature is not merely a design choice.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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